

WHAT IS CLAIMED IS:

1. A prefabricated composite panel comprising:
a frame including a plurality of spaced apart frame members;
5 a reinforcing layer fastened to at least one of said frame members; and
a generally planar concrete slab having a density of 400 to 1760 kg/m³
(25 to 110 pcf), wherein said concrete slab has a front face and a rear face, wherein
said reinforcing layer and a portion of said frame are embedded in said slab, and
another portion of said frame protrudes from said rear face of said slab.
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2. The prefabricated composite panel of claim 1 wherein the
concrete slab is aerated concrete.
3. The prefabricated composite panel of claim 1 wherein said
15 elongated frame members include C-channel members including a web and two
flanges connected to the web.
4. The prefabricated composite panel of claim 3 wherein at least one
of said two flanges includes at least one tab and tab-opening, said concrete slab
20 extending through said tab-opening.
5. The prefabricated composite panel of claim 1 wherein the
reinforcing layer includes a slit and expanded metal lath.
- 25 6. The prefabricated composite panel of claim 1 further comprising
at least one opening in the panel which is partially bounded by said frame members.
7. The prefabricated composite panel of claim 1 further comprising
at least one outer member removably attached to said frame and bounding at least one
30 edge of the panel.

8. The prefabricated composite panel of claim 7 wherein said outer member is permanently attached to the composite panel.

9. A prefabricated composite panel comprising:

a concrete slab;

a frame including a plurality of spaced apart frame members wherein said frame members are partially embedded in said concrete slab; and

at least one tab and tab-opening disposed on an embedded portion of said frame members, said concrete slab extending through said tab-opening.

10. The prefabricated composite panel of claim 9 wherein said tab is embedded in concrete.

11. The prefabricated composite panel of claim 9 wherein said frame members include C-channel members including a web and two flanges connected to the web.

12. The prefabricated composite panel of claim 11 wherein said tab is disposed on a flange and has an angled orientation with respect to said flange.

13. The prefabricated composite panel of claim 9 further comprising a reinforcing layer attached to said frame members.

14. The prefabricated composite panel of claim 9 further including an opening in the panel.

15. The prefabricated composite panel of claim 9 further comprising at least one outer member removably attached to said frame and bounding at least one edge of the panel.

16. The prefabricated composite panel of claim 9 wherein said concrete slab is aerated concrete having a density of between 400 to 1760 kg/m³ (25 to 110 pounds per cubic foot).

5 17. A prefabricated composite panel comprising:
a frame including a plurality of spaced apart frame members;
a generally planar concrete slab having a front face and a rear face, said
concrete slab embedding an embedded portion of said frame so that an exposed
portion of said frame protrudes from said rear face; and
10 at least one outer member removably fastened to said frame and
configured to retain the concrete within an area bounded by said outer member.

18. The composite panel of claim 17 wherein said at least one outer member bounds at least one edge of the panel.

15 19. The composite panel of claim 17 wherein said at least one outer member bounds the entire panel.

20. The composite panel of claim 17 wherein said at least one outer member is fastened to said frame by snapping or pressure fitting against said frame.

20 21. A method of fabricating a composite building panel from concrete and a frame, the method comprising the steps of:

attaching at least one outer member to the frame such that said outer member is oriented upside down;

25 flipping the frame and said attached outer member over generally 180-degrees such that said outer member is oriented right side up;

placing said outer member and the frame on a pouring pad;

depositing a concrete slurry onto said pouring pad to a depth such that a portion of the frame is embedded in the concrete; and

curing the concrete.

22. The method of claim 20 further comprising the step of removing the composite panel from said pouring pad with the outer member attached to the frame.

5 23. The method of claim 20 further comprising the step of attaching a reinforcing layer to the frame.

24. A method of sealingly fastening two composite panels having a front face and a rear face together, the method comprising the steps of:

10 placing two peripheral frame members of a panel in an opposing arrangement;

disposing an insert between said peripheral frame members;

fastening said peripheral frame members together with a fastener with said insert sandwiched between said frame members; and

15 disposing a seal between said peripheral frame members near the front face of the panel.